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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,735	05/18/2006	Youngbok Son	LK-0017	3547
34610 7590 12/08/2009 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200				
EXAMINER				
SCRUGGS, ROBERT J				
ART UNIT		PAPER NUMBER		
3723				
MAIL DATE		DELIVERY MODE		
12/08/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,735

Applicant(s)

SON ET AL.

Examiner

ROBERT SCRUGGS

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/06)
Paper No(s)/Mail Date 6/29/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment received on August 28, 2009. Claim 5 has been cancelled therefore claims 1-4 and 6-11 remain pending in the application and have been fully examined.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on June 29, 2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.


4. Claims 1-4, 6 and 8-11 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Nordeen (4426751) in view of Waldhauser (4817233).

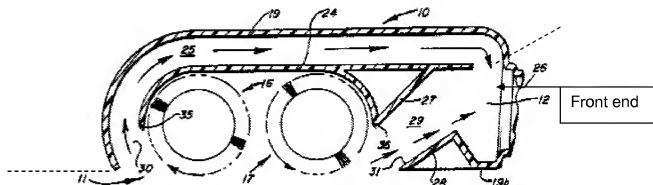
In reference to claim 1, Nordeen discloses a vacuum cleaner comprising: a suction head (10) installed at a front end of a suction path (12) that sucks substances by a vacuum pressure generated by a suction motor (not shown) and having a suction hole (11) on a bottom of the suction head through which the substances are sucked in to the suction path, a brush (17) rotatably installed in the suction hole of the suction head and

rotated to contact a surface and at least one hair tunnel (25) formed on the suction head such that the at least one hair tunnel and the brush do not to interfere with each other, wherein the at least one hair tunnel preferentially sucks thin and long substances from the surface, but lacks, a sweeper provided at an inlet of the at least one hair tunnel that preferentially sucks the thin and long substances from the surface into the at least one hair tunnel. However, Waldhauser teaches a technique of including a sweeper (36 or 38) installed at the inlet unit of a hair tunnel formed by elements (46 and 29, see figure 6) for preferentially sucking the thin and long substances from the bottom to the hair tunnel. It would have been obvious to one of ordinary skill in the art to modify the cleaning device, of Nordeen, with the known technique of using a sweeper assembly at an inlet portion of a tunnel, as taught by Waldhauser, and the results would have been predictable. In this situation, one could provide a vacuum that that more effectively removes dirty water from the surface being cleaned.

In reference to claim 2, Nordeen also shows that the hair tunnel is linked to the front end of the suction path through a path isolated from the path (29) for linking the suction hole to the front end of the suction path in the suction head (see figure below).

Area surrounding
opening (11)





In reference to claim 3, Nordeen also shows that the inlet unit of the hair tunnel surrounds the suction hole (see figure above).

In reference to claim 4, Nordeen also shows that the inlet unit of the hair tunnel is installed at the front portion of the suction hole in the general suction head progress direction (see figure above).

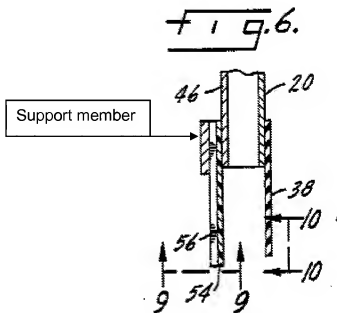
In reference to claim 6, Waldhauser also teaches that a sweeper can comprise a first sweeper (36) partially downwardly protruded from the bottom surface of the end of the inlet unit of the hair tunnel far from the suction hole and a second sweeper (44) downwardly protruded from the bottom surface of the end of the inlet unit of the hair tunnel close to the suction hole.

In reference to claim 8, Waldhauser also shows that the first and second sweepers are formed in a comb-tooth shape (Figures 9 and 10).

In reference to claim 9, Waldhauser also teaches that the sweepers can be formed with various shapes and sizes therefore obviously if one were to select the first sweeper as seen in figure 10 and the second sweeper as shown in figure 9 that obviously the interval of the comb teeth of the second sweeper as seen in figure 9 would be smaller than that of the comb teeth of the first sweeper as seen in figure 10.

In reference to claim 10, Waldhauser also teaches that the comb teeth of the first sweeper can vary in size (Figure 6) therefore obviously one could select the length of the teeth of the first sweeper to be longer than those of the second sweeper.

In reference to claim 11, Waldhauser also shows that the some of the comb teeth of the first sweeper comprise a support member for reducing an operation resistance by the first sweeper.



5. Claim 7, is **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Nordeen (4426751) in view of Waldhauser (4817233) and Fernandez-Grandizo Martinez (2003/0145425). Nordeen discloses the claimed invention previously mentioned above, but lacks, having a second sweeper is formed in a group bristle shape with a predetermined width. However, Fernandez-Grandizo Martinez teaches a technique of forming a second sweeper (106) in a group bristle shape with a predetermined width (Figure 4). One of ordinary skill in the art could have applied the known technique of forming a second sweeper in a group bristle shape with a predetermined width, as taught by Fernandez-Grandizo Martinez, in the same way to the device, of Nordeen, and the results would have been predictable. In this situation, one could provide a sweeper that can be easily re-configured for cleaning a wide variety of working surfaces.

Response to Arguments

6. Applicant's arguments filed August 28, 2009 have been fully considered but they are not persuasive.

7. Applicant contends that, **“However, independent claim 1 specifically recites that the claimed at least one hair tunnel and brush do not interfere with each other. Further, Nordeen does not disclose or suggest wherein a sweeper is provided at an inlet of the at least one hair tunnel that preferentially sucks the thin and long substances from the surface into the at least one hair tunnel.”**

a. However, the examiner respectfully disagrees with this statement. The examiner maintains that the hair tunnel and the brush do not interfere with each other since the hair tunnel is formed above the brush.

8. Applicant contends that, **“However, the Examiner corresponded elements 36 or 38 as corresponding to the claimed sweeper. Elements 36 and 38 are disclosed by Waldhauser as inner and outer lips of front squeegee 40. The squeegees disclosed by Waldhauser pick up dirty water from a floor and deposit it in a recovery tank via plenum chamber 46 and connection 48. The squeegees do not help the plenum chamber 46 preferentially suck thin and long substances.”**

b. However, the examiner respectfully disagrees with this statement. The examiner notes that the term “sweeper” does not imply any structural limitations to the claims therefore elements 36 or 38 do meet the limitation of being a “sweeper” since they sweep across the surface as the cleaning device moves. The fact they also absorb water is moot because the applicant has disclosed an apparatus type claim and not a method claim. Structural limitations are what define apparatus type claims and since elements 36 or 38 meet the structural limitations of the claims the examiner believes the rejection is proper and thus maintained.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT SCRUGGS whose telephone number is (571)272-8682. The examiner can normally be reached on Monday-Friday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RS

/Joseph J. Hail, III/

Supervisory Patent Examiner, Art Unit 3723